

CLAIMS:

1. An isolated cDNA molecule with a nucleotide sequence as shown in FIG. 1.

5 2. An isolated cDNA molecule with a nucleotide sequence showing about 70% homology to the nucleotide sequence in FIG. 1.

3. A segment of the isolated cDNA molecule of claim 1, wherein the segment extends from the start codon (ATG) to the stop codon TAA in the nucleotide sequence and includes 765 base pairs.

10 4. A segment of the isolated cDNA molecule of claim 2, wherein the segment extends from the start codon (ATG) to the stop codon TAA, in the nucleotide sequence and includes about 765 base pairs.

5. A segment of the isolated cDNA sufficient to encode an epitope in the Lab protein detectable by the antibody MCA 44-3A6.

15 6. An amino acid sequence encoded by the cDNA segment of claim 1.

7. An amino acid sequence encoded by the DNA segment of claim 2.

8. A method to diagnose cancer cells in a sample of cells, said method comprising:

20 a. contacting the sample of cells with a labeled probe that is capable of hybridizing to the *lab* gene, or a fragment thereof, under stringent conditions; and

25 b. determining whether the probe has hybridized with nucleotide sequences in the sample, from which the presence of the *lab* gene is inferred, said presence being diagnostic of cancer.

9. A vaccine comprising a molecule having an amino acid sequence selected from the group of sequences encoded by the cDNA of FIG. 1, sequences encoded by the cDNA of FIG. 2, the peptides ^{SEQ ID NO: 6} APPEDNPVED₁, ^{SEQ ID NO: 7} EEQQEVPPDT₁, ^{SEQ ID NO: 8} DGPTGEPQQE₁, and ^{SEQ ID NO: 9} QENPDSSEPV₁, and any fragment, or combinations thereof.

10. An amino acid sequence selected from the group consisting of ^{SEQ ID NO: 6} APPEDNPVED₁, ^{SEQ ID NO: 7} EEQQEVPPDT₁, ^{SEQ ID NO: 8} DGPTGEPQQE₁, and ^{SEQ ID NO: 9} QENPDSSEPV₁.

11. An amino acid sequence PTGEPQ.

12. An antibody directed to an amino acid sequence selected from the sequence of claim 10.

13. The antibody of claim 12, further defined as a monoclonal antibody.

14. An antibody produced in mammals against an amino acid sequence encoded by the DNA molecule of claim 1.

15. A method for detecting the cDNA molecule of claim 1 in a sample of cells, said method comprising:

a. contacting the sample of cells with a labeled probe that is capable of hybridizing to the cDNA or a fragment thereof, under stringent conditions;

b. determining if hybridization has occurred between the probe and the sample, from which the presence of the cDNA is inferred.

16. A method to attenuate the expression of the cDNA molecule of claim 1, said method comprising:

a. obtaining an antisense molecule to the cDNA molecule, and

b. hybridizing the antisense molecule to the cDNA molecule.

17. An isolated genomic DNA molecule from which the cDNA of claim 1 is derived.

18. A vector comprising the isolated cDNA molecule of claim 1.

Sequence of the cDNA